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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/714,514	11/14/2003	Sohrab Amirghodsi	07844-597001 / P550	9827
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			ART UNIT 2624	PAPER NUMBER
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/714,514

Applicant(s)

AMIRGHODSI, SOHRAB

Examiner

Randolph Chu

Art Unit

2624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 6/20/2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-22, 26-44 and 47-69 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-22, 26-44 and 47-69 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-5, 18 23, 26-29, 42-44 and 47-49 are rejected under 35 U.S.C. 102(e) as being anticipated by Blinn et al. (US 2003/0077000).

With respect to claim 1, Blinn et al. teaches computing a filter for applying to the first image, including computing a spatially quantized representation of the filter wherein a degree of spatial quantization of the filter depends on one or more factors including a measure of scale relating the first sample grid (source) and a desired sample grid (destination) (Fig. 3, para. [0040] - [0043], abstract); and

storing the spatially quantized representation of the filter in a data structure comprising a location array that includes a plurality of elements representing fractional pixel locations based on a spatial quantization factor (weight of filter kernel), wherein

each element of the location array points to a sample array of filter values (Fig. 3, para. [0040] - [0043], abstract).

With respect to claim 2, Blinn et al. teaches computing a desired image sampled on the desired sample grid, including computing samples of the desired image according to an application of the spatially quantized representation of the filter to the first image. (Fig. 3, para. [0043]).

With respect to claim 3, Blinn et al. teaches accepting data characterizing a geometric transformation relating the first sample grid and the desired sample grid; and computing the measure of scale from the data characterizing the geometric transformation (Fig. 3, para. [0040]).

With respect to claim 4, Blinn et al. teaches computing the filter includes selecting the number of spatial samples of the spatially quantized representation of the filter (Fig. 3, para. [0043]).

With respect to claim 5, Blinn et al. teaches computing the spatially quantized representation of the filter includes computing values of the filter each associated with one of a number of equal spatial domains of the filter (Fig. 3, para. [0043]).

With respect to claim 18, please refer to rejection for claim 3.

With respect to claim 26, please refer to rejection for claim 1.

With respect to claim 27, please refer to rejection for claim 3.

With respect to claim 28, please refer to rejection for claim 4.

With respect to claim 29, please refer to rejection for claim 5.

With respect to claim 42, please refer to rejection for claim 1.

With respect to claim 43, please refer to rejection for claim 3.

With respect to claim 44, please refer to rejection for claim 3.

With respect to claim 47, please refer to rejection for claim 3.

With respect to claim 48, please refer to rejection for claim 4.

With respect to claim 49, please refer to rejection for claim 5.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 6-8, 19, 30-32, 50-52, 62 and 66 are rejected under 35 USC 103(a) as being unpatentable over Blinn et al. (US 2003/0077000) in view of Thompson (US 6,681,059).

With respect to claim 6, Blinn et al. teaches all the limitations of claim 1 as applied above from which claim 6 respectively depend.

Blinn et al. does not disclose expressly that computing the filter for applying to the first image includes selecting a parametric family of filters.

Thompson teaches computing the filter for applying to the first image includes selecting a parametric family of filters (Figure 8, ref. no. 64; col. 6 lines 50-59).

At the time of the invention it would have been obvious to a person of ordinary skill in the art to select parameters to compute filters and apply it in the method of Blinn et al.

The suggestion/motivation for doing so would have been that filter can be calculated according to the parameter so that filter can be object specific.

Therefore, it would have been obvious to combine Thompson with Blinn et al. to obtain the invention as specified in claim 6.

With respect to claim 7, Thompson teaches computing the filter for applying to the first image includes determining parameter values for the filter (Figure 8, ref. no. 64; col. 6 lines 50-59).

With respect to claim 8, Thompson teaches determining the parameter values for the filter includes computing the parameters values based on factors including the measure of scale (Figure 8, ref. no. 64; col. 6 lines 50-59).

With respect to claim 19, please refer to rejection for claim 6.

With respect to claim 30, please refer to rejection for claim 6.

With respect to claim 31, please refer to rejection for claim 7.

With respect to claim 32, please refer to rejection for claim 8.

With respect to claim 50, please refer to rejection for claim 6.

With respect to claim 51, please refer to rejection for claim 7.

With respect to claim 52, please refer to rejection for claim 8.

With respect to claim 62, please refer to rejection for claim 6.

With respect to claim 66, please refer to rejection for claim 6.

5. Claims 9-11, 24, 33-35 and 53-55 are rejected under 35 USC 103(a) as being unpatentable over Blinn et al. (US 2003/0077000) in view of Mutoh (US 2004/0057634).

With respect to claim 9, Blinn et al. teaches all the limitations of claim 1 as applied above from which claim 6 respectively depend.

Blinn et al. does not disclose expressly that accepting a user input specifying a characteristic of the resampling.

Mutoh teaches accepting a user input specifying a characteristic of the resampling (para. [0080]).

At the time of the invention it would have been obvious to a person of ordinary skill in the art to accept a user input specifying a characteristic of the resampling in the method of Blinn et al.

The suggestion/motivation for doing so would have been that filter can be calculated according to the user input so that filter can be customizable by user.

Therefore, it would have been obvious to combine Mutoh with Blinn et al. to obtain the invention as specified in claim 9.

With respect to claim 10, Mutoh teaches accepting the user input includes accepting an input related to a characteristic (Magnification or reduction) of the desired image (para. [0080]).

With respect to claim 11, Mutoh teaches characteristic of the desired image includes a visual characteristic (Magnification or reduction) of the desired image (para. [0080]).

With respect to claim 33, please refer to rejection for claim 9.

With respect to claim 34, please refer to rejection for claim 10.

With respect to claim 35, please refer to rejection for claim 11.

With respect to claim 53, please refer to rejection for claim 9.

With respect to claim 54, please refer to rejection for claim 10.

With respect to claim 55, please refer to rejection for claim 11.



6. Claims 12-13, 36-37 and 56-57 are rejected under 35 USC 103(a) as being unpatentable over Blinn et al. (US 2003/0077000) in view of Mutoh (US 2004/0057634) and in further view of Chiba et al. (US 6,111,566).

With respect to claim 12, Blinn et al. and Mutoh teaches all the limitations of claim 9 as applied above from which claim 12 respectively depend.

Blinn et al. does not disclose expressly that accepting a user input includes accepting an input related to a processing characteristic.

Chiba et al. teaches accepting a user input includes accepting an input related to a processing characteristic (col. 4 lines 18-25).

At the time of the invention it would have been obvious to a person of ordinary skill in the art to accept a user input related to a processing characteristic in the method of Blinn et al. and Mutoh

The suggestion/motivation for doing so would have been that user can select choice between image quality and processing characteristic such as speed.

Therefore, it would have been obvious to combine Chiba et al. with Blinn et al. and Mutoh to obtain the invention as specified in claim 9.

With respect to claim 13, Chiba et al. teaches that input related to the processing characteristic includes an input related to a processing speed (col. 4 lines 18-25).

With respect to claim 36, please refer to rejection for claim 12.

With respect to claim 37, please refer to rejection for claim 13.

With respect to claim 56, please refer to rejection for claim 12.

With respect to claim 57, please refer to rejection for claim 13.

7. Claims 14-16, 38-40 and 58-60 are rejected under 35 USC 103(a) as being unpatentable over Blinn et al. (US 2003/0077000).

With respect to claims 14 and 15, Blinn et al. teaches all the limitations of claim 1 as applied above from which claims 14 and 15 respectively depend.

Blinn et al. does not disclose expressly that the degree of spatial quantization of the filter depends on factors that further include characteristics of a computation device include a memory size or cache memory size for performing the resampling.

When a software is made, it always depend on characteristics of a computation device include a memory size. It should have minimum system requirement.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to create filter depend on characteristics of a computation device in the method of Blinn et al.

The suggestion/motivation for doing so would have been that filter can be calculated according characteristics of a computation device so that image processing can be done without conflict with computation device.

With respect to claims 38-40 please refer to rejection for claims 14 -16.

With respect to claims 58-60 please refer to rejection for claims 14 -16.

8. Claims 17, 41 and 61 are rejected under 35 USC 103(a) as being unpatentable over Blinn et al. (US 2003/0077000) in view of Lacroix et al. (US 2003/0058216).

With respect to claims 17, Blinn et al. teaches all the limitations of claim 14 as applied above from which claims 17 respectively depend.

Blinn et al. does not disclose expressly that the characteristics of the computational device include a processor characteristic.

Lacroix et al. teaches the characteristics of the computational device include a processor characteristic (para [0049]).

At the time of the invention it would have been obvious to a person of ordinary skill in the art to create filter depend on processor characteristic of device in the method of Blinn et al.

The suggestion/motivation for doing so would have been that filter can be optimized for user (processing speed, image quality).

Therefore, it would have been obvious to combine Chiba et al. with Blinn et al. and Mutoh to obtain the invention as specified in claim 17.

With respect to claims 41, please refer to rejection for claim 17.

With respect to claims 61, please refer to rejection for claim 17.

9. Claims 20-22, 63-65 and 67-69 are rejected under 35 USC 103(a) as being unpatentable over Blinn et al. (US 2003/0077000) in view of Mutoh (US 2004/0057634) and in further view of Blumberg (US 6,886,034).

With respect to claim 20, Blinn et al. and Mutoh teaches all the limitations of claim 19 as applied above from which claim 20 respectively depend.

Blinn et al. and Mutoh does not teach expressly that specification of the geometric transformation includes a specification of an affine transformation.

Blumberg teaches affine transformation (col 10, lines 3-11).

At the time of the invention it would have been obvious to a person of ordinary skill in the art to use affine transformation in the method of Blinn et al.

The suggestion/motivation for doing so would have been that affine transformation precisely map straight lines to straight lines and it preserves all linear combination.

Therefore, it would have been obvious to combine Blumberg with Blinn et al. and Mutoh to obtain the invention as specified in claim 15.

With respect to claim 21, Blumberg teaches, scaling includes a specification of a minification (col. 1 lines 25-31).

With respect to claim 22, Blumberg teaches, scaling includes a specification of a magnification (col. 1 lines 25-31).

With respect to claims 63, please refer to rejection for claim 20.

With respect to claims 64, please refer to rejection for claim 21.

With respect to claims 65, please refer to rejection for claim 22.

With respect to claims 67, please refer to rejection for claim 20.

With respect to claims 68, please refer to rejection for claim 21.

With respect to claims 69, please refer to rejection for claim 22.

### ***Response to Amendment***

10. In response to applicant's amendment received on 6/20/2007, all requested changes to the claims have been entered.

### ***Response to Argument***

Applicant's arguments filed on 6/20/2007 have been fully considered but they are not persuasive.

Applicant's argue on page 15 of the response that the disclosure of Blinn et al. do not teach that the array of values includes a plurality of elements representing fractional pixel locations based on a spatial quantization factor".

The examiner disagrees. The prior art of Blinn et al. is using filter kernel that is calculating output using fractional pixel locations (weighted original pixels) based on weight (spatial quantization factor) (Blinn Fig. 3 and para. [0041]-[0043]).

### ***Conclusion***

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

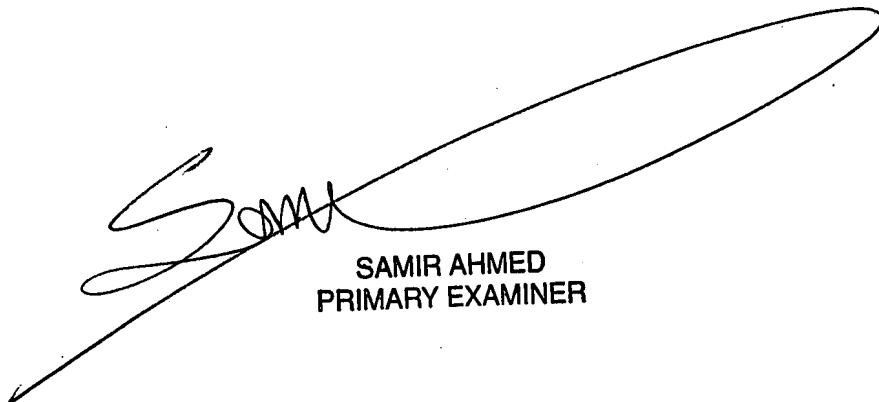
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Randolph Chu whose telephone number is 571-270-1145. The examiner can normally be reached on Monday to Thursday from 7:30 am - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Mancuso can be reached on 571-272-7695/7695. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RIC/



SAMIR AHMED  
PRIMARY EXAMINER